

34. (Once Amended) A DNA construct comprising as operably linked components in the direction of transcription, a promoter region obtainable from a gene, wherein transcription of said gene is light-inducible in a plant chloroplast containing tissue, a DNA sequence of interest which provides for at least one of increased capability of protein storage, improved nutrient source, enhanced response to light, enhanced dehydration resistance, and enhanced resistance to viruses, insects or fungi.

35. (Once Amended) A DNA construct comprising as operably linked components in the direction of transcription, a promoter region obtainable from a gene, wherein said gene is light-inducible in a plant chloroplast containing tissue; a DNA sequence of interest; wherein said DNA sequence of interest is a mutated *aroA* gene.

36. (Once Amended) A DNA construct comprising as operably linked components in the direction of transcription, a promoter region obtainable from a gene, wherein transcription of said gene is light-inducible in a plant chloroplast containing tissue; a DNA sequence of interest other than the native coding sequence of said gene; and a transcription termination region, wherein said components are functional in a plant cell, and wherein said DNA sequence of interest is in an antisense orientation.

37. (Once Amended) A DNA construct according to Claim 34, wherein said promoter region is an SSU promoter.

38. (Once Amended) A DNA construct according to Claim 34, wherein said DNA construct is flanked by T-DNA.

39. (Once Amended) A plant cell having an altered phenotype as a result of expression of a DNA construct, said DNA construct comprising as operably linked components in the direction of transcription, a promoter region obtainable from a gene, wherein transcription of said gene is

light-inducible in a plant chloroplast containing tissue, a DNA sequence of interest which provides for at least one of increased capability of protein storage, improved nutrient source, enhanced response to light, enhanced dehydration resistance, and enhanced resistance to viruses, insects or fungi.

40. (Once Amended) A plant comprising cells comprising a DNA construct, said DNA construct comprising as operably linked components in the direction of transcription, a promoter region obtainable from a gene, wherein transcription of said gene is light-inducible in a plant chloroplast containing tissue, a DNA sequence of interest which provides for at least one of increased capability of protein storage, improved nutrient source, enhanced response to light, enhanced dehydration resistance, and enhanced resistance to viruses, insects or fungi.

43. (Once Amended) A plant part having an altered phenotype as a result of expression of a DNA construct, said DNA construct comprising as operably linked components in the direction of transcription, a promoter region obtainable from a gene, wherein transcription of said gene is light-inducible in a plant chloroplast containing tissue, a DNA sequence of interest which provides for at least one of increased capability of protein storage, improved nutrient source, enhanced response to light, enhanced dehydration resistance, and enhanced resistance to viruses, insects or fungi.

62. (Once Amended) A plant having a regulatable phenotype comprising as integrated into its genome a DNA construct according to Claim 21, 34, or 49.

63. (Once Amended) A plant with an altered phenotype in a plant tissue of interest as distinct from other tissues, said plant comprising as integrated into its genome a DNA construct according to Claim 21, 34, or 49.

64. (Once Amended) A plant with a modified genotype comprising as integrated into its genome a DNA construct according to Claim 21, 34, or 49.


66. (Once Amended) A method for altering the phenotype of a plant tissue of interest, said method comprising:

growing a plant, wherein said plant comprises cells containing a DNA construct integrated into their genome, said DNA construct comprising, in the 5' to 3' direction of transcription, a transcriptional initiation region from a gene, wherein transcription of said gene is preferentially associated with a specific stage of plant growth, a DNA sequence of interest other than the coding sequence native to said transcriptional initiation region, and a transcriptional termination region, whereby said DNA sequence of interest is transcribed under transcriptional control of said transcriptional initiation region and said plant having an altered phenotype is obtained.


76. (Once Amended) A method to selectively express a heterologous DNA sequence of interest in a plant tissue of interest, said method comprising:

growing a plant capable of developing a plant tissue of interest under conditions to produce said plant tissue of interest, wherein said plant comprises cells having a genomically integrated DNA construct comprising, as operably linked components in the 5' to 3' direction of transcription, a transcriptional initiation region specifically regulated during a particular stage of growth, a DNA sequence of interest other than the coding sequence native to said transcriptional initiation region, and a transcriptional termination region downstream of said DNA sequence of interest, whereby said DNA sequence of interest is expressed under control of said transcriptional initiation region specifically regulated in said plant tissue of interest.

92. (Once Amended) A method to selectively express a heterologous DNA sequence of interest in a plant tissue of interest, said method comprising:

 growing a plant capable of developing a plant tissue of interest under conditions to produce said plant tissue of interest, wherein said plant comprises cells having a genomically integrated DNA construct comprising, as operably linked components in the 5' to 3' direction of transcription, a transcriptional initiation region specifically regulated in a plant tissue selected from the group consisting of chloroplast containing tissue, embryonic seed tissue and fruit tissue, a DNA sequence of interest other than the coding sequence native to said transcriptional initiation region which provides for modulation of expression of endogenous products, and a transcriptional termination region downstream of said DNA sequence of interest, whereby said DNA sequence of interest is expressed under control of said transcriptional initiation region specifically regulated in said plant tissue of interest.

113. (Once Amended) A method for obtaining a plant having a regulatable phenotype comprising:

 transforming a host plant cell with a DNA construct under genomic integration conditions, wherein said DNA construct comprises as operably linked components in the direction of transcription, a promoter region obtainable from a gene, wherein transcription of said gene is preferentially regulated in a plant tissue selected from the group consisting of chloroplast containing tissue, embryonic seed tissue and fruit tissue, a DNA sequence of interest other than the native coding sequence of said gene which provides for at least one of increased capability of protein storage, improved nutrient source, enhanced response to light, enhanced dehydration resistance, enhanced herbicide resistance, and enhanced resistance to viruses, insects or fungi,

and a transcription termination region, wherein said components are functional in a plant cell, whereby said DNA construct becomes integrated into a genome of said plant cell;

regenerating a plant from said transformed plant cell, and growing said plant under conditions whereby said DNA sequence of interest is expressed.

114. (Once Amended) A method for altering the phenotype of a plant tissue of interest, said method comprising:

growing a plant, wherein said plant comprises cells containing a DNA construct integrated into their genome, said DNA construct comprising, in the 5' to 3' direction of transcription, a transcriptional initiation region from a gene, wherein transcription of said gene is preferentially regulated in a plant tissue selected from the group consisting of chloroplast containing tissue, embryonic seed tissue and fruit tissue, a DNA sequence of interest other than the coding sequence native to said transcriptional initiation region which provides for at least one of increased capability of protein storage, improved nutrient source, enhanced response to light, enhanced dehydration resistance, enhanced herbicide resistance, and enhanced resistance to viruses, insects or fungi, and a transcription termination region;

whereby said DNA sequence of interest is transcribed under transcriptional control of said transcriptional initiation region, and said plant having an altered phenotype is obtained.

117. (Once Amended) A method for modifying the genotype of a plant to impart a desired characteristic to a plant tissue of interest comprising:

transforming under genomic integration conditions, a host plant cell with a DNA construct comprising in the 5' to 3' direction of transcription, a transcriptional initiation region from a gene, wherein transcription of said gene is preferentially regulated in a plant tissue selected from the group consisting of chloroplast containing tissue, embryonic seed tissue and

fruit tissue, a DNA sequence of interest other than the native coding sequence of said gene which provides for at least one of increased capability of protein storage, improved nutrient source, enhanced response to light, enhanced dehydration resistance, enhanced herbicide resistance, and enhanced resistance to viruses, insects or fungi, and a transcription termination region, whereby said DNA construct becomes integrated into the genome of said plant cell;

regenerating a plant from said transformed host cell; and

growing said plant to produce a plant tissue of interest having a modified genotype.

121. (Once Amended) A method for modifying transcription in plant tissue of interest as distinct from other plant tissue, comprising:

growing a plant capable of developing a plant tissue of interest under conditions to produce said plant tissue of interest, wherein said plant comprises cells containing a DNA construct integrated into their genome, said DNA construct comprising, in the 5' to 3' direction of transcription, a transcriptional initiation region specifically regulated in a plant tissue selected from the group consisting of chloroplast containing tissue, embryonic seed tissue and fruit tissue, a DNA sequence of interest other than the coding sequence native to said transcriptional initiation region which provides for at least one of increased capability of protein storage, improved nutrient source, enhanced response to light, enhanced dehydration resistance, enhanced herbicide resistance, and enhanced resistance to viruses, insects or fungi, and a transcriptional termination region;

whereby said DNA sequence of interest is transcribed under transcriptional control of said transcription initiation region specifically regulated in said plant tissue of interest.

124. (Once Amended) A method to selectively express a heterologous DNA sequence of interest in a plant tissue of interest comprising:

growing a plant capable of developing a plant tissue of interest under conditions to produce said plant tissue of interest, wherein said plant comprises cells having a genomically integrated DNA construct comprising, as operably linked components in the 5' to 3' direction of transcription, a transcriptional initiation region specifically regulated in a plant tissue selected from the group consisting of chloroplast containing tissue, embryonic seed tissue and fruit tissue, a DNA sequence of interest other than the coding sequence native to said transcriptional initiation region which provides for at least one of increased capability of protein storage, improved nutrient source, enhanced response to light, enhanced dehydration resistance, enhanced herbicide resistance, and enhanced resistance to viruses, insects or fungi, and a transcription termination region downstream of said DNA sequence of interest;

whereby said DNA sequence of interest is expressed under the control of said transcriptional initiation region specifically regulated in said plant tissue of interest.

129. (Once Amended) A method for obtaining a plant having a regulatable phenotype, said method comprising:

transforming a host plant cell with a DNA construct under genomic integration conditions, wherein said construct comprises as operably linked components in the direction of transcription, a promoter region obtainable from a gene, wherein transcription of said gene is preferentially regulated in a plant tissue of interest, a DNA sequence of interest other than the native coding sequence of said gene that is not a phaseolin coding sequence, and a transcription termination region, wherein said components are functional in a plant cell,

whereby said DNA construct becomes integrated into a genome of said plant cell;

regenerating a plant from said transformed plant cell, and

growing said plant under conditions whereby said DNA sequence of interest is expressed, and a plant having said regulatable phenotype is obtained.

130. (Once Amended) A method for altering the phenotype of a plant tissue of interest, said method comprising:

growing a plant, wherein said plant comprises cells containing a DNA construct integrated into their genome, said DNA construct comprising, in the 5' to 3' direction of transcription, a transcriptional initiation region from a gene, wherein transcription of said gene is preferentially regulated in a plant tissue of interest, a DNA sequence of interest other than the coding sequence native to said transcriptional initiation region that is not a phaseolin coding sequence, and a transcriptional termination region;

whereby said DNA sequence of interest is transcribed under transcriptional control of said transcriptional initiation region, and a plant having an altered phenotype is obtained.

Please enter the following new claims:

131. (New) A cell of a dicotyledonous plant having integrated into its genome a DNA construct comprising as operably linked components in the direction of transcription, a promoter region obtainable from a gene, wherein said gene is light-inducible in a plant chloroplast containing tissue; a DNA sequence of interest other than the native coding sequence of said gene and native to a plant host; and a transcription termination region, wherein said components are functional in a plant cell; wherein said DNA sequence of interest is in an antisense orientation.

132. (New) A cell of a dicotyledonous plant having an altered phenotype as a result of expression of a DNA construct, said DNA construct comprising as operably linked components in the direction of transcription, a promoter region obtainable from a gene, wherein transcription of said gene is light-inducible in a plant chloroplast containing tissue, a DNA sequence of

interest which provides for at least one of increased capability of protein storage, improved nutrient source, enhanced response to light, enhanced dehydration resistance, and enhanced resistance to viruses, insects or fungi.

133. (New) A method for altering the phenotype of a dicotyledonous plant tissue of interest comprising:

growing a dicotyledonous plant, wherein said dicotyledonous plant comprises cells containing a DNA construct integrated into their genome, said DNA construct comprising, in the 5' to 3' direction of transcription, a transcriptional initiation region from a gene, wherein transcription of said gene is preferentially associated with a specific stage of plant growth, a DNA sequence of interest other than the coding sequence native to said transcriptional initiation region, and a transcriptional termination region, whereby said DNA sequence of interest is transcribed under transcriptional control of said transcriptional initiation region and said plant having an altered phenotype is obtained.

134. (New) A method for obtaining a dicotyledonous plant having a regulatable phenotype comprising:

transforming a dicotyledonous host plant cell with a DNA construct under genomic integration conditions, wherein said construct comprises as operably linked components in the direction of transcription, a promoter region obtainable from a gene, wherein transcription of said gene is preferentially associated with a specific stage of plant growth; a DNA sequence of interest other than the native coding sequence of said gene, and a transcriptional termination region are functional in a plant cell, whereby said DNA construct becomes integrated into a genome of said plant cell;

regenerating a plant from said transformed plant cell, and growing said plant under conditions whereby said DNA sequence of interest is expressed.

135. (New) A method to selectively express a heterologous DNA sequence of interest in a dicotyledonous plant tissue of interest comprising:


growing a dicotyledonous plant capable of developing a plant tissue of interest under conditions to produce said plant tissue of interest, wherein said plant comprises cells having a genomically integrated DNA construct comprising, as operably linked components in the 5' to 3' direction of transcription, a transcriptional initiation region specifically regulated during a particular stage of growth, a DNA sequence of interest other than the coding sequence native to said transcriptional initiation region, and a transcriptional termination region downstream of said DNA sequence of interest, whereby said DNA sequence of interest is expressed under control of said transcriptional initiation region specifically regulated in said plant tissue of interest.

136. (New) A method to selectively express a heterologous DNA sequence of interest in a dicotyledonous plant tissue of interest as distinct from other dicotyledonous plant tissue comprising:

growing a dicotyledonous plant capable of developing a plant tissue of interest under conditions to produce said plant tissue of interest, wherein said plant comprises cells having a genomically integrated DNA construct comprising, as operably linked components in the 5' to 3' direction of transcription, a transcriptional initiation region specifically regulated in a plant tissue selected from the group consisting of chloroplast containing tissue, embryonic seed tissue and fruit tissue, a DNA sequence of interest other than the coding sequence native to said transcriptional initiation region which provides for modulation of expression of endogenous products, and a transcriptional termination region downstream of said DNA sequence of interest,

whereby said DNA sequence of interest is expressed under control of said transcriptional initiation region specifically regulated in said plant tissue of interest.

137. (New) A method for obtaining a dicotyledonous plant having a regulatable phenotype comprising:



transforming a dicotyledonous host plant cell with a DNA construct under genomic integration conditions, wherein said construct comprises as operably linked components in the direction of transcription, a promoter region obtainable from a gene, wherein transcription of said gene is preferentially regulated in a plant tissue selected from the group consisting of chloroplast containing tissue, embryonic seed tissue and fruit tissue, a DNA sequence of interest other than the native coding sequence of said gene which provides for at least one of increased capability of protein storage, improved nutrient source, enhanced response to light, enhanced dehydration resistance, enhanced herbicide resistance, enhanced resistance to viruses, insects or fungi, and a transcription termination region, wherein said components are functional in a plant cell, whereby said DNA construct becomes integrated into a genome of said plant cell;

regenerating a plant from said transformed plant cell, and growing said plant under conditions whereby said DNA sequence of interest is expressed, and a plant having said regulatable phenotype is obtained.

138. (New) A method for obtaining a dicotyledonous plant having a regulatable phenotype comprising:

transforming a dicotyledonous host plant cell with a DNA construct under genomic integration conditions, wherein said construct comprises as operably linked components in the direction of transcription, a promoter region obtainable from a gene, wherein transcription of said gene is preferentially regulated in a plant tissue of interest, a DNA sequence of interest other

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than the native coding sequence of said gene that is not a phaseolin coding sequence, and a transcription termination region, wherein said components are functional in a plant cell, whereby said DNA construct becomes integrated into a genome of said plant cell; regenerating a plant from said transformed plant cell, and growing said plant under conditions whereby said DNA sequence of interest is expressed, and said plant having said regulatable phenotype is obtained.
